No. 3
Dec. 31, 1955

T R O P I C A L H O U S I N G & P L A N N I N G

M O N T H L Y B U L L E T I N

for Dr. C. A. DOXIADES*

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Koenigsberger, Otto H.
Problems of Housing
Labourers in the Tropics

Further information on any of the digests may be obtained on request by reference to the Bulletin no. and the item no.--i.e., 2.3 would refer to New Zealand. Minister of Housing. Housing, 1955. Wellington, Government Printer, 1955. 38p., plans, tables, chart.

* This report has been compiled for private circulation only by Prof. J. Tyrwhitt, 77 Trowbridge Street, Cambridge, Mass., USA.

I. CURRENT LITERATURE

GENERAL

Japan. Bureau of Statistics. Report on the housing survey of 1953. Tokyo, The Bureau, Mar. 1954. 413p., map, charts, tables. Available on request of the Bureau at Tokyo.

Most of the text is in Japanese, except for "Outline of the housing survey of 1953," p. 14-16, and some of the tables. The volume consists of the very briefest text and 27 tables. Coverage of these tables listed on photostatic copy herewith.

REPORT ON THE HOUSING SURVEY OF 1953

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I. CURRENT LITERATURE

HOT HUMID AREAS

South African Council for Scientific and Industrial Research. National Building Research Institute. Research studies on the costs of urban Bantu housing. Pretoria, The Council, Dec. 1954. 285 pages 2 separately numbered papers dealing with Bantu housing reprinted from National Research Institute bulletins. Plans, cross sections, charts, tables.

This report is available from the Council at P.O. Box 395, Pretoria, South Africa, at a price of 30s. (A shilling in South African currency equals 14 cents U.S.)

Study was limited to cost of houses and outbuildings. The Committee is conscious that real cost of housing is made up of other factors, too, and some of these other factors are being studied by a committee constituted to investigate the administration and running costs of urban Bantu townships, but other considerations, such as costs of street services and sanitation still require study.

An idea of the coverage of the report may be seen from the following copy of its Table of Contents:

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A. Native housing research in South Africa. F. R. Rodseth, F. van Heerden and J. E. Jennings.

B. Minimum standards of accommodation for the housing of non-Europeans in South Africa. D. M. Calderwood and Paul H. Connell.

C. Site selection in non-European housing estate layouts. D. M. Calderwood.

D. The planning of non-European residential areas in South Africa. D. M. Calderwood.

E. A study of the socio-economic status of Native families in the Payneville Location, Springs H. J .J. van Beinum.

F. The existing provision and estimated requirements of housing for the urban Bantu. Wm. C. Mocke.

G. The structural requirements of single-storey Native houses. N. D. Nathan.

H. Some further investigations into the structural requirements of single-storey urban Bantu houses. J. A. P. Laurie and Chas. A. Rigby.

I. The resistance of thin walls to rain penetration — a review of the literature. S. J. P. Joubert.

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K. Considerations of thermal conditions in low-cost houses in South Africa in relation to climate and the health and well-being of the occupants. S. J. Richards.

L. Permanent ventilation in urban Bantu houses of the type NE 51/9. J. F. van Straaten.

M. Flues for solid fuel appliances in Native housing. S. J. Richards.

N. Cost norms for Native housing. A. L. Glen.

O. Some reduced cost norms for Native housing. A. L. Glen.

P. The economics of different methods of foundation construction for urban Bantu housing in relation to slope of ground. D. Samson.

Q. The costs of Native housing — present day costs of brick houses at Vereeniging. A. L. Glen.

R. Time studies of labour employed on the building of urban Bantu houses using European artisans. A. L. Glen.

S. Time studies of labour employed on the building or urban Bantu houses using Native building workers on a craft basis. A. L. Glen.

T. Time studies on the laying of orthodox blocks in walling of urban Bantu housing, A. L. Glen.

U. Time studies of labour employed on the building of urban Bantu houses using Native building workers on an operative basis. A. L. Glen.

V. Overheads and profits in relation to native housing, A. L. Glen.

3. Alcock, A.E.S. Development and planning in West Africa. (page proof of paper to be published in Town Planning Institute Summer School, August 1955). 17p., plans.

Climate: 90°F-70°F in forest and South but there is a wider range in the North

Rainfall: varies from 25" at Accra to 83" in S.W.

Paper is concerned with the Gold Coast together with Togoland. About 70% of population which is almost entirely African, live in villages of less than 1500. There are only 10 towns with more than 10,000 population, and of these only three have more than 25,000 population. They are Accra, the capital with 180,000; Kumasi, the capital of Ashanti in the heart of the forest with 80,000; and Sekondi-Takoradi, the principal port with 50,000. Probably half of the non-African population lives in Accra, which is the commercial as well as the administrative capital of the country.

The Gold Coast is a wealthy colony compared with others. Chief source of wealth is cocoa. It also exports gold, timber, manganese, diamonds, etc.

Harbors and railways being developed. Since the war, public services considerably extended. There are nine major and eleven minor water supply installations. There is a rise in electricity development. Educational buildings are being erected, as well as hospitals.

The Government has been active in housing for many years and large estates for low-income groups have been built at Accra, Kumasi, Sekondi-Takoradi, Tarkwa, and other places. The present trend is towards hire-purchase housing and towards encouragement of self-help through loans and technical advice.

Mr. Alcock (Chief Town Planning Officer) then states that his "talk is not concerned with public authority housing in the Gold Coast, which is a wide subject worthy of a separate paper." He goes on to a discussion of sea fishing industry, timber and mining, and then discusses at some length the Volta River Project. The purpose of this project is the smelting of the extensive bauxite deposits of the country into alumninum with hydro-electric power from the Volta River. It is expected that the need for aluminum in the world will develop and here the bauxite deposits exist near potential sources of hydro-electric power. Elsewhere bauxite has to be carried vast distances. The Volta River hydro-electric project would entail the building of a dam across the Volta between Akwapim and Togoland hills, and the flooding of 3000 square miles. Advantages would seem to outnumber the disadvantages. Paper proceeds to spell out direct and indirect developments which will occur if the Volta River Project is carried out. In this itemization the author give the following:

SOCIAL DEVELOPMENT

A. Urban Areas

1. New Towns. (i) Building of seaport town for the new harbour at Tema (proceeding as part of ordinary development). (ii) Building of an industrial town for the aluminium factory workers.

2. Existing Towns. (i) Development between Accra and Tema. (ii) Development of other towns adjacent to the project, e.g. Koforidua.

B. Rural Areas

1. Resettlement. (i) Resettlement of widely distributed rural population from inundated area engaged in fishing and farming to new lands clear of the inundation.

2. Village Development. (i) Adjacent to new towns. (ii) On the shores of the long navigable lake and vast, prolific fishing waters. (iii) As a result of irrigation and new cultivation. (iv) Due to construction of new railways, roads and mines.

Planning of the new town of Tema in the Gold Coast is described. 63 square miles of land was acquired stretching about 10 miles along the coast and six miles inland. It contained scattered herdsmen's hamlets and one fishing village of 4000 people. It was acquired at existing use value by special legislation.

A new town corporation was established, again by special legislation. This has dual function of new town developer and local authority. Later the latter power will be gradually transferred to a normal local authority.

Social needs of new towns studies on basis of make-up of new population. They will be, in all probability, migrants from rural areas. Mr. Alcock describes the difference between the homogeneous community where family and kinship relations are strong, and the heterogeneous communities where these relations are weak. In the latter people live singly or in "biological families." In the former there is a "social security," in the sense that no one is homeless, or starves. Both these types have to be considered in studying the background of the dwellers in the new town of Tema, where there would be no homogeneous community other than the existing fishing village.

In Accra 60-65% of families have incomes of less than £200 annually. A survey of families earning between £50 and £180 per annum in 1953 showed expenditures as follows:

Food and drink	62%	(50% on local foodstuffs)
Clothing	12%	
Rent	8%	(for the 65% that did not own own houses)
Fuel and light	5%	
Other items	13%	

A large part of population would be unable to afford more than £1 10s. per month rent. There would be a demand for single rooms and for small houses of two or three rooms. There would be little demand for houses larger than this, except for a very small demand for houses much larger than these.

A community of 12,000 has been chosen as a unit. This community would comprise a fair-sized market, a community center, library, health center, middle and secondary school, post office and police station. All these to center around the market. Community units to be built one at a time as far as possible.

There follows description of regional and rural planning administration and procedures, land tenure practices, and basic principles of planning.

4. Housing for Korea. (In Architectural record, Nov. 1955, vol. 118:5, p. 334.)

Climate: Circa 100/10°F

Rainfall: Circa 47"

Article follows in its entirety.

The "Homes for Korea" Committee recently announced the appointment of Carl G. Lans, A.I.A., architect and builder, as the committee's technical director. The committee, of which Earl W. Smith, president of the National Association of Home Builders, and William Zeckendorf, New York realtor, are co-chairmen, was formed as a result of a plea from the American-Korean Foundation to the building industry to come up with a plan to alleviate Korea's critical housing shortage. The "pilot" project is to consist of 1000 units, designed by a team of six Korean architects and to be built of native materials with American technical assistance.

5. Moriarty, Denis. Kenya houses its Africans: a recent visitor to Kenya describes four of its principal towns and the housing and other problems created by their rapid growth. (In Town and country planning, Aug. 1955, vol. 23:136, p. 369-374; with photos.)

Population: for each place mentioned is given in text

Climate: (Nairobi), 89°F-36°F

Rainfall: 38"

Prior to the opening up of the interior by explorers and missionaries some 60 years ago there were only a few small settlements on the coast such as Mombasa and Malindi. With building of railroad to Lake Victoria, and with coming of Indians to help British build it, towns sprung up along the line. Now there are three new municipalities: Nairobi, Nakuru, Kisumu.

Mombasa (85,000 population) is on an island connected with mainland by two road bridges and a car ferry. The historic part of town is Old Port close to Fort Jesus where narrow streets of shuttered houses, mosques, warehouses and a Hindu temple are grouped. Farther south are newer residential areas for well-to-do Indians and for Europeans. In center of town is a slum area with mud-walled houses, roofed with flattened out paraffin tins, thatch, etc. Farther out from center is housing provided by Government for customs employees. Here good use is made of trees for shading the white-washed row houses.

The newest development here is Port Tudor Estate. This is the nearest to a "neighborhood unit." There are one-story houses in rows leading to a hostel. There is a row of shops with apartments overhead, and behind a number of detached two-story apartments with enclosed Swahili-type courtyards. Buildings are pink and white.

Since Mombasa is an old town and on an island, housing is distributed in small areas rather than in one or two large developments. Residential areas for four main races (Arab, African, Indian, and European) are not restricted. The result is a feeling of cosmopolitanism resembling that which one has in Kampala, Uganda, yet glaring extremes are avoided by grouping.

Nairobi with 120,000 inhabitants is quite different. It is growing fast, "invaded" continually by Africans--normally by Kikuyus from their nearby reserve, and recently by Nyanza tribes who are replacing the Kikuyus who often have had to vacate. New factories and businesses are coming into the city, and there is a quick yet controlled development going on here.

Separate residential areas sprang up to meet the needs of the three races and the official town plan has recognized this as both historic and likely to be realistic culturally for a number of years. With city council permission races can mix in all residential areas but in general they live in separate areas.

To some extent Nairobi is the headquarters of Mau-Mau which poses special problems, and this in addition to backlog in housing of the war years. Presence of high building costs (building done almost entirely by Indians) and the absence of direct subsidy have placed housing beyond the means of the Africans. The result is that overcrowding has occurred. Quite recently, however, it has been announced that the Government will peg costs to 15s. a square foot, using prefabricated blocks of pumice-cement, in a new scheme for 5,000 houses which will have individual water-borne sanitation (pit latrines, common elsewhere in Africa, are not possible here where rock lies 2 ft. 6 in. under black cotton soil) and also their own water supply.

Nakuru (population 18,000) is Kenya's farming capital, situated on the so-called "White Highlands." This area is farmed by Europeans using African labor. Much of the business in the town is done by Asians who have their own residential area. The African housing estate, on land sloping down to Lake Nakuru, consists of houses either semi-detached, or in rows, with walls colored in pastel shades, with asbestos sheeting instead of roof tiles. This African housing is on a small scale and is in a flourishing condition economically since it relies on the African Trust Fund which in turn depends on the municipal brewery for support.

The absence of trees here is hardly noticeable because of the excellent siting. Some use has been made of prefabricated methods of construction.

Kisumu (population 11,000) is almost an Indo-European enclave in African territory. The only municipal housing is for the town's own African employees, and for Government employees in the public works department. Since African employees could not pay rents for housing built to standards of the town, there is a daily trek of workers to and from the Reserve surrounding the town where no town planning restrictions or bylaws exist.

Here, the author reports that, both in the houses made of traditional materials, e.g. brick walls, and of prefabricated units, the design and siting of the houses are the best he saw in Kenya. He likens the beauty of detached and semi-detached whitewashed cottages against the Nandi Hills to a Paul Henry landscape. For street sweepers, etc., the houses have front-doors opposite each other (for the men to sit and talk) and back-doors opposite each other with washing slabs at ground level tilted to the drawin (for women to talk and sing while they work). Each row is color-washed in two harmonizing colors.

The author thinks the lesson to be learned is that there is much to be said for each district having housing for different levels of need and therefore of different design and layout; also, that in accordance with differing abilities to pay, there may be advantages in varying rents rather than any standard rent, despite the problem posed to the housing authority. There may be merit in using materials which do not last too long since it is difficult to estimate future needs of Africans.

Mombasa demostrates that ordinary trees giving shade are quite as important as flowering shrubs. Kisumu illustrates value of variety in color-washing. Nairobi has not much to offer except in the matter of siting and large trees, which are difficult problems.

6. Singapore Improvement Trust. The work of the Singapore Improvement Trust, 1954. Compiled by J.M. Fraser. Singapore, Government Printing Office, 1955. 60p., photos., map, plans, sketch, tables, charts.

Population: 1,167,682

Climate: 87°F-74°F

Rainfall: 95"

The Trust acts as the Agent of Government for public housing but it has not the statutory powers nor the duties of a Housing Authority. Its housing activity is authorized under Section of Ordinance which says, "The Board may with the approval of the Governor in Council erect such buildings as the Board may think fit." The first housing scheme was started in 1936 at Tiong Bahru. It was a block of flats which was offered for sale but unsuccessfully. After that failure no housing offered for sale until 1954 when Trust decided to sell certain terrace housing then under construction at Queenstown.

The trust continued to develop the Tiong Bahru area which now houses 15,000.

A real housing famine existed at end of war. No new housing erected during Japanese occupation. The post-war housing started in 1947.

A 1947 housing report showed many blocks in city containing more than 1000 persons per acre. In an area of 1000 acres more than 300,000 people lived and worked. Need of an over-all master plan seen and a programme for housing within that plan seemed obvious.

By the end of 1954 more than 10,000 houses and shops had been completed at cost of $60 million. This was financed by loan from Government at favorable rate. The rate of building of housing has increased from 212 in 1947 to over 200 houses a month at present. Total loans have now reached $95.9 million.*

With Government assurance of loans the Trust has now prepared a 5-year program providing for 2745 houses during 1955 rising to 5000 houses in 1959. The ultimate aim is 6000 houses per year. To achieve it a greatly enlarged staff in the Architects Dept. needs to be recruited at once so planning will be ahead of execution.**

Aim of Trust is to house lower income group. Al present there are three classes of housing:

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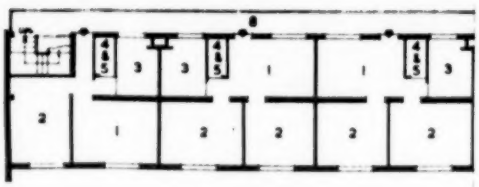
* Singapore dollar equals about 38 cents in American currency.

** The work of the Trust is carried out by seven departments under the general supervision of the Manager: viz:--Planning Department, Estates and Lands Department, Architects Department, Survey Department, Secretariat, Finance Department, and Master Plan Team. The Staff of the Trust was at the end of 1954: Senior Officers 34; Junior Officers 318; Open Votes Employees 422.

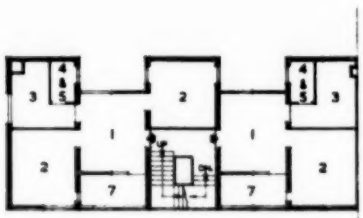
AP

SINGAPORE IMP

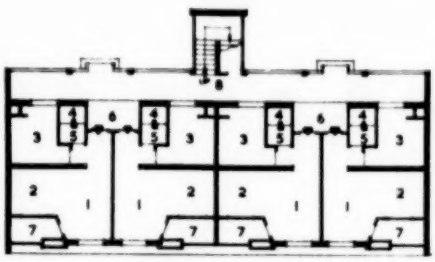
TYPICAL PLANS



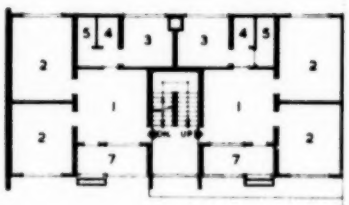
JALAN BESAR
2 STOREY FLATS FLOOR AREA 515 SQ FT COST $5400



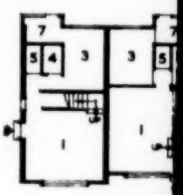
PRINCESS ESTATE
3 STOREY FLATS FLOOR AREA 500 SQ FT COST $4750



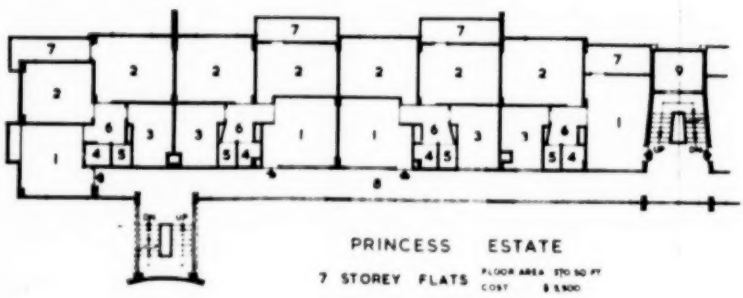
PRINCESS ESTATE
3 STOREY BED-SITTING FLATS FLOOR AREA 404 SQ FT COST $3900



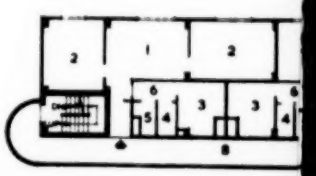
ALEXANDRA ROAD NORTH
3 STOREY FLATS FLOOR AREA 538 SQ FT COST $5100



2 STOREY T



PRINCESS ESTATE
7 STOREY FLATS FLOOR AREA 570 SQ FT COST $5900

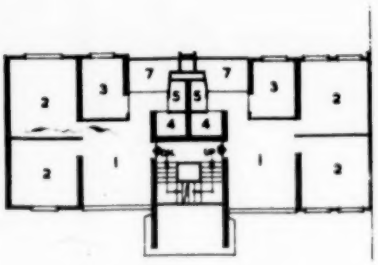


PRINCESS ESTA
14 STOREY FLATS FLOOR AR COST

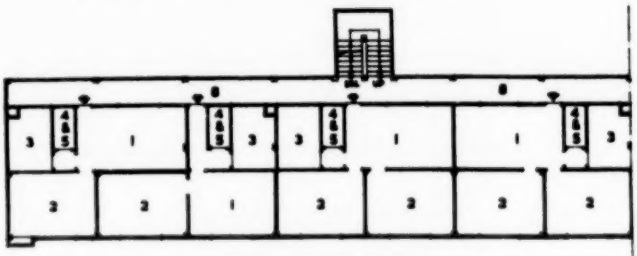
APPENDIX III

IPROVEMENT TRUST

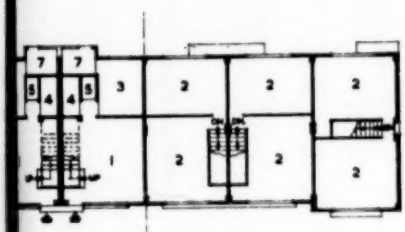
OF HOUSING UNITS



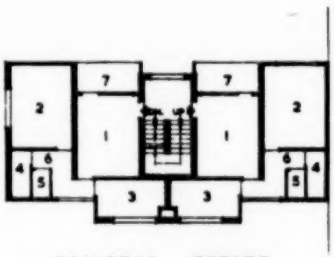
PRINCESS ESTATE
4 STOREY FLATS FLOOR AREA 616 SQ.FT. COST $5,290



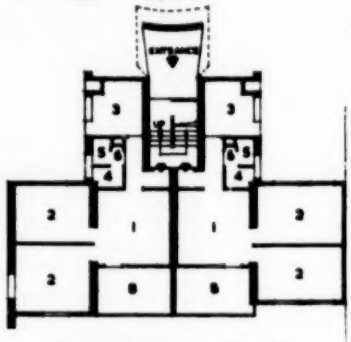
KIM TIAN ROAD
4 STOREY FLATS FLOOR AREA 500 SQ.FT. COST $4,000



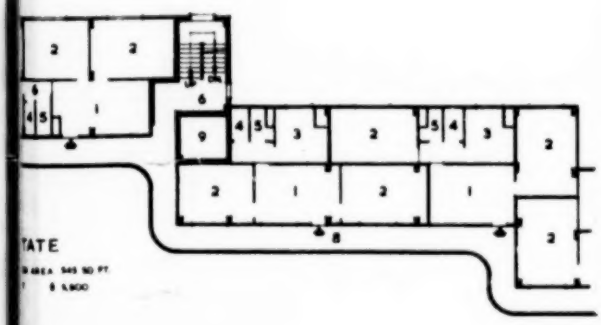
PRINCESS ESTATE
TERRACE HOUSES FLOOR AREA 604 SQ.FT. COST $4,800



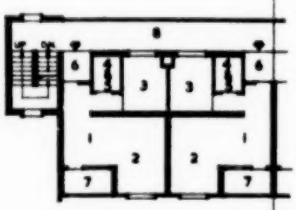
PRINCESS ESTATE
4 STOREY FLATS FLOOR AREA 504 SQ.FT. COST $4,890



PRINCESS ESTATE
4 STOREY FLATS FLOOR AREA 601 SQ.FT. COST $5,640



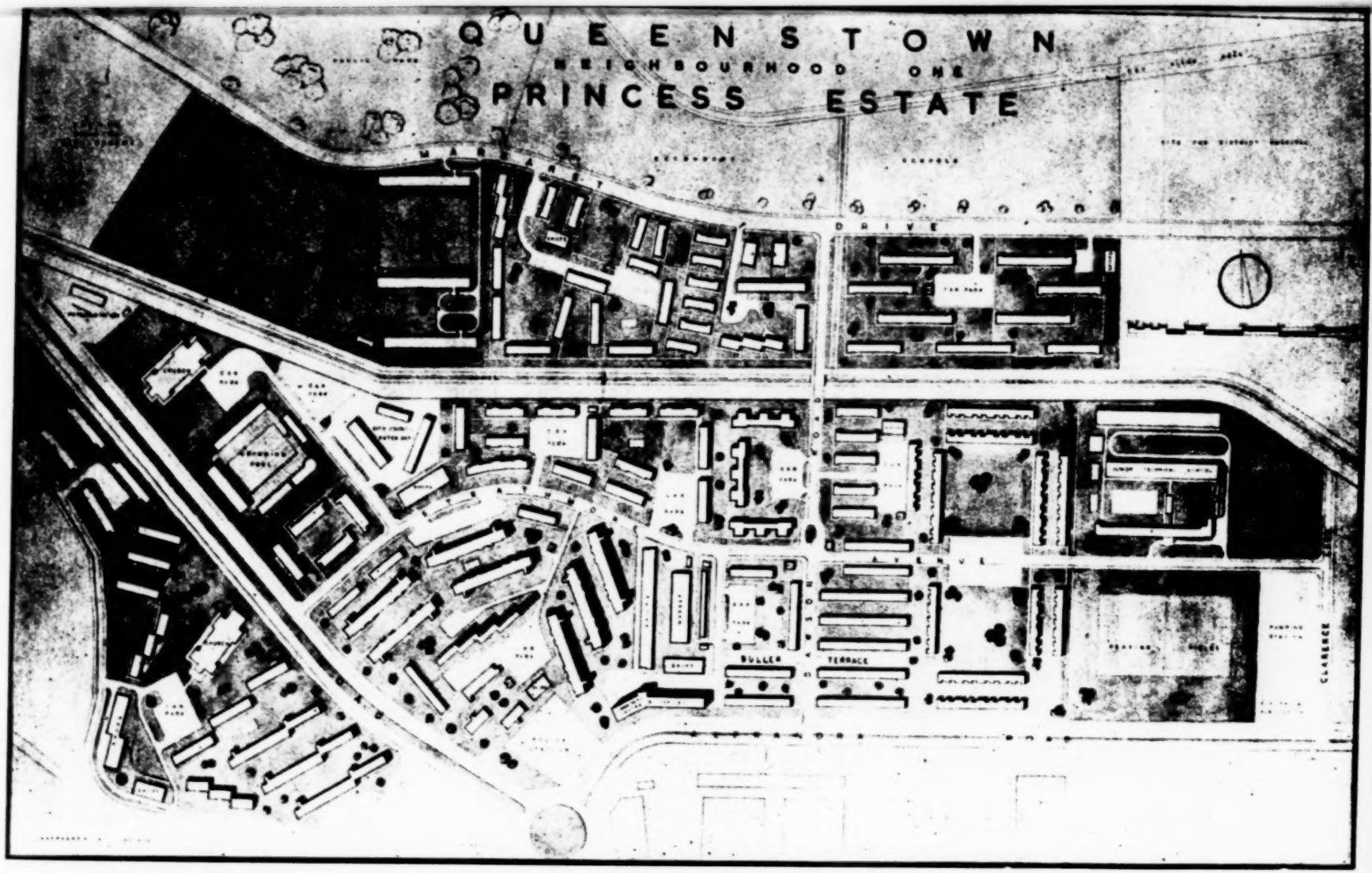
TATE
AREA 545 SQ.FT.
$4,900



PRINCESS ESTATE
3 STOREY BED-SITTING FLATS FLOOR AREA 404 SQ.FT. COST $3,900

LEGEND	
LIVING ROOM	1
BED ROOM	2
KITCHEN	3
BATH	4
W.C	5
LOBBY	6
BALCONY	7
ACCESS BALCONY	8
LIFT	9

NOTE,
AVERAGE FLOOR AREA PER FLAT IN SQUARE FEET
$ AVERAGE COST 1954 PER FLAT



Layout plan of Princess Estate, the first neighbourhood unit at Queenstown. The building of all the dwellings in the estate, together with schools, is expected to be complete by mid-1956

for those earning under $200 a month, those earning between $200 - 400 a month; those earning up to $600 a month. Although third category is still open the houses now being built are those renting at 55 a month or less, and semi-permanent houses renting at $30 a month or less. Government has ruled that no rentals are to exceed 55 a month.

Trust develops satellite towns as well as central city housing (which often means slum clearnace). Queenstown is one of these satellite towns. When completed will have all services and will have an industrial site. In essence it will be a "New Town"

Squatter problem in Singapore is serious. As the suburban settlements are developed father and farther from the core of the city this problem intensifies. In every case these dwellers have been removed and rehoused.

Queenstown, mentioned before, covers 600 acres, between three and four miles from center of city. The development of first of five neighborhoods is progressing; that of the other four delayed by difficulty of removing the squatter population.

The low-rental houses are built mainly of pre-cast concrete hollow blocks.

7. Speltincx, H.J. Les realisations de l'Office des cités Africaines au Congo Belge at au Ruanda-Urundi. (In L'Habitation, Feb. 1955, vol. 8:2, p. 101-130; with photos., plans.)

Climate: Circa 97/34°F

Rainfall: Circa 40"

M. Speltincx is Chef du Service de l'I.N.P.H., and Administrateur de l'Office des Cités Africaines. He outlines the activity of this last named office in the amelioration of the conditions in Belgian Congo, after a rather detailed statement of conditions in the region and the causes of them. He then outlines the setting up of "Offices" which were created (1949) at Léopoldville, at Stanleyville, at Costermansville, and at Usumbura. These four offices constructed some 2,000 dwellings. Complexities of technical and financial aspects made coordination of these Offices necessary and in 1952 there was created the "Office des Cités Africaines." This office's activity is limited to the native agglomerations and their extensions. Within these limits its power is very great. It controls all the operations of arrangement of the land, the building of housing and other buildings for the use of the inhabitants and it directs public works.

There follows further data concerning the organizations of the "Office" and its connection with Brussels, and a detailed explanation of its financial organization, and a detailed statement of changes in its rules and regulations.

In general the mission of the Office is to construct as quickly as possible the greatest number possible of houses in keeping with the very modest resources of the native workers. These dwellings are to demonstrate comfort and durability, and to a reasonable extent they should conform to the taste of their future occupants.

To reduce price there has been simplification of plan, standardization, use of native material.

Then follows an examination of the dwellings which have been built.

Many plan types established and adapted to the climatic, topographic, and esthetic needs of the different localities. The area of the dwellings varies from 36 m. to 52 m., and the height averages 2,40 m. Generally, each house contains a shower-bath and water closet.

The materials used are baked brick, bricks of stabilized soil, or cement blocks. The prefabricated houses are constructed of wood fibre panels (en laine de bois) in cellular concrete or "en bois bakélisé."

III SPECIAL ARTICLE

Koenigsberger, Otto H. Problems of housing labourers in the tropics. (In News sheet of the International Federation for Housing and Town Planning, May 1955, no. 36, p. 20; with diagrams.)

Article herewith in its entirety.

to be closely connected with the major activities in the home and with specific provisions and amenities. In spite of economies made necessary by the economic condition of the country, the post-war dwellings are in this respect an improvement on the types built before 1940. Among the tenants there is a general appreciation of the free access of light and fresh air, of the shower-bath found in every new dwelling and of the provisions for washing and drying in the home.

The main points of stress are: the absence of a second living-room, a washing-room that still is not always large enough for housewives using an electric washing-machine (often hired or bought on the easy payment system), and the lack of sufficient room for drying the washing when the weather is bad. In addition, storage accommodation and the size and number of cupboards have often been restricted to the theoretical minimum.

An important factor determining the tenants' appreciation of their dwelling is the degree to which it has been adapted to *the socio-cultural evolution of the tenants*, which has been accelerated after the two world wars. Especially after the second world war great masses of the working-class population have attained a higher standard of living, finding its expression in a more "bourgeois" way of living in the home. In this connection the inquiry also showed the importance of "standing" and the representative aspects of the home.

With regard to the *future value of the dwellings* the conclusions based on the inquiry are an indication that both the technical and the socio-cultural evolution will have to be considered in the design and construction of new housing. More continued and secondary education, a shortened working day and a more conscious use of leisure time will influence the requirements made with regard to the dwelling together with the technological perfection with which the tenant gets into touch outside his home. Better hygienic provisions in factories and schools, recreation-rooms in the factories, the equipment of restaurants, cinemas, public-service vehicles etc. will also affect the demands made on the dwelling. Increasing material prosperity during the time to come in which the dwelling is used is likely to bring many things which are at present still the monopoly of the higher social strata within the reach of the skilled worker. Another factor that has to be taken into account is the penetration of urban ways of life and patterns of culture into country areas.

Another matter that still requires extensive study and research is the influence of the dwelling on human life and, in connection with this influence, the question to what extent people's lives are likely to be influenced through housing.

PROBLEMS OF HOUSING LABOURERS IN THE TROPICS *)

By Otto H. Koenigsberger, Dr. Eng., F.I.I.A., M.I.E. (India)

IT can be taken as an accepted fact that an employer in a tropical country has a much greater responsibility for the housing of his labour than has his counterpart in Europe or in North America.

In some countries, laws make the provision of housing by employers compulsory; in others, geography makes it unavoidable. Factories, estates and mines are often situated at great distances from existing settlements, and the employer who wants a stable labour force has no alternative but to house his men.

It can also be taken as agreed that standards of labour housing should be reasonably high with regard to both construction and accommodation. However, it is not enough to set standards and to make laws to enforce them. Housing targets must be practicable; otherwise they will remain on paper.

A medium-sized plant employing, say, 500 men may have to spend at least £ 300 to £ 400 for the housing of each worker's family. This means an investment of £ 200,000 – a sum which represents a considerable load for a factory of this size. As the productivity of the workers in many parts of the tropics is low, this investment is not likely to bring an immediate return. Rents will not cover the interest and amortisation on the capital invested. There will no doubt be indirect benefits, but they are long-term benefits and not immediate ones.

The problem may be summed up like this:

The housing of industrial or estate labourers in the tropics involves a major investment of capital: this investment is practically inescapable: there are long-term benefits to be expected, but no immediate returns. It is therefore important to build houses which are both suitable and cheap. This demand provides a natural division of my talk into two parts: how to build cheaply, and how to build well.

I. HOW TO BUILD CHEAPLY

Even the house of a poor labourer in the tropics consists of many parts. It is necessary to analyse the elements which make up the total cost before venturing to make any suggestion as to how this total could be reduced. The relative importance of the various elements of cost is best explained with the help of two simple diagrams.

Breakdown of Total Cost

The left hand circle represents the total cost of a housing estate. It is based on an example from Morocco published by M. Ecochard in the *Annales de L'Institut Technique du Batiment et des Travaux Publics* of October, 1950. It is interesting to note that the houses themselves represent only 46 %, i.e., less than half the total cost. The remaining 54 % covers land and land development (including roads, water supply and storm-water drainage), at 15 %; shops, buildings for entertainment and private business at 21 %; public buildings at 13 %; and electrification of the housing estate at 5 %. Public buildings would include a dispensary, a police station, a post office, a community centre, sports ground, etc.

The figures of the left-hand diagram, which are taken from a large housing project in Morocco, would obviously

*) Extract from Report of the 28th Meeting of The Ross Institute Industrial Advisory Committee of 21st January, 1954, kindly placed at disposal by author.

In general the mission of the Office is to construct as quickly as possible the greatest number possible of houses in keeping with the very modest resources of the native workers. These dwellings are to demonstrate comfort and durability, and to a reasonable extent they should conform to the taste of their future occupants.

To reduce price there has been simplification of plan, standardization, use of native material.

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